

**WHAT IS CLAIMED IS:**

- 1           1. A transgenic mammal, the genetic composition of which comprises:  
2           a nucleic acid that includes (1) a coding sequence that encodes an allergen and (2) a  
3           heterologous promoter operably linked to the coding sequence, wherein the heterologous  
4           promoter directs expression of the allergen in a mammary cell of the animal or a female  
5           progeny thereof.
- 1           2. The transgenic mammal of claim 1, wherein the allergen is of a dust mite allergen.
- 1           3. The transgenic mammal of claim 2 wherein the dust mite is *Dermatophagoides*  
2           *pteronyssinus* or *Dermatophagoides farinae*.
- 1           4. The transgenic mammal of claim 3, wherein the allergen comprises a polypeptide  
2           having an amino acid sequence at least 70% identical to SEQ ID NO:1, 2, or 3.
- 1           5. The transgenic mammal of claim 4, wherein the allergen comprises a polypeptide  
2           having an amino acid sequence that is identical to SEQ ID NO:1, 2, or 3.
- 1           6. The transgenic mammal of claim 1, wherein the promoter is a promoter for a  
2           casein or lactalbumin.
- 1           7. The transgenic mammal of claim 7, wherein the promoter is  $\alpha$ -lactalbumin  
2           promoter.
- 1           8. The transgenic mammal of claim 1, wherein the mammal is a cow, goat, or sheep.
- 1           9. A milk composition comprising  
2           a heterologous, non-milk allergen; and  
3           a casein.
- 1           10. The milk composition of claim 9, where the allergen is of an insect.

11. The milk composition of claim 10, wherein the allergen is of a dust mite.

12. The milk composition of claim 11, wherein the dust mite is  
*Dermatophagoides pteronyssinus* or *Dermatophagoides farinae*.

13. The milk composition of claim 12, wherein the allergen is Der p 5, Der p 1, or  
Der p 2.

14. The milk composition of claim 9, wherein the casein is bovine or caprine.

15. The milk composition of claim 9 wherein the composition is dried.

16. A method of treatment comprising:  
administering the milk of claim 9 to a subject in a sufficient amount to reduce  
airway inflammation and hyperactivity in the subject.

17. A method of treatment comprising  
administering the milk of claim 11 to a subject in a sufficient amount to  
reduce airway inflammation and hyperactivity in the subject.

18. A method of treatment comprising  
administering the milk of claim 12 to a subject in a sufficient amount to  
reduce airway inflammation and hyperactivity in the subject.

19. A method of treatment comprising  
administering the milk of claim 13 to a subject in a sufficient amount to  
reduce airway inflammation and hyperactivity in the subject.

20. A method of decreasing the production of IgE in a subject exposed to an allergen,  
the method comprising

administering to a subject the milk of claim 9, wherein the allergen is present in a  
sufficient quantity to induce in the subject tolerance to the allergen, the tolerance including

5 suppression of allergen-specific IgE production in the subject upon subsequent exposure to  
6 the allergen.

1 21. A nucleic acid comprising:

2 (1) a coding sequence that encodes an allergen; and

3 (2) a heterologous promoter operably linked to the coding sequence wherein  
4 the heterologous promoter directs expression of the allergen in a mammary cell.

1 22. The nucleic acid of claim 21, wherein the allergen is of a dust mite allergen.

1 23. The nucleic acid of claim 22, wherein the dust mite is *Dermatophagoides*  
2 *pteronyssinus* or *Dermatophagoides farinae*.

1 24. The nucleic acid of claim 23, wherein the polypeptide has an amino acid  
2 sequence at least 70% identical to SEQ ID NO:1.

1 25. The nucleic acid of claim 23, wherein the allergen comprises a polypeptide  
2 having an amino acid sequence that is identical to SEQ ID NO:1, 2, or 3.

1 26. The nucleic acid of claim 22 wherein the promoter is a promoter for a casein or  
2 lactalbumin.

1 27. The nucleic acid of claim of claim 28 wherein the promoter is  $\alpha$ -lactalbumin  
2 promoter.

1 28. A mammalian germ cell of the transgenic mammal of claim 1.